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Panahi, Sirous, Watson, Jason, & Partridge, Helen L.  
(2015)

Fostering interpersonal trust on social media: Physicians' perspectives and experiences.

*Postgraduate Medical Journal*. (In Press)

This file was downloaded from: <http://eprints.qut.edu.au/91033/>

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<http://doi.org/10.1136/postgradmedj-2015-133270>

**Author version:**

***.Fostering Interpersonal Trust on Social Media: Physicians’  
Perspectives and Experiences***

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To cite: Panahi S, Watson J, Partridge H. Postgrad Med J Published Online First: 1 Dec.2015. doi:10.1136/ postgradmedj-2015-133270

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## ABSTRACT

**Background:** The problem of developing and sustaining mutual trust has been regarded as one of the main barriers of knowledge sharing on social media platforms such as blogs, wikis, micro-blogs, and social networking websites. While many studies argued that mutual trust is necessary for online communication and knowledge sharing, few actually explored and demonstrated how physicians can establish and sustain trusted relationships in particular on social media.

**Objectives:** To identify approaches through which physicians establish interpersonal trust on social media.

**Methods:** Twenty-four physicians, who were active users of social media, were interviewed using semi-structured approach between 2013 and 2014. Snowball sampling was employed for recruitment of the study participants. The data were analysed using thematic analysis approach.

**Results:** Physicians trust their peers on social media slightly differently than how they do in a face to face communication. The study found that majority of the participants established their trusted relations on social media mainly through approaches such as previous personal interactions, authenticity and relevancy of voice, professional standing, consistency of communication, peer recommendations, and non-anonymous and moderated sites.

**Conclusions:** Healthcare professionals need to approach social media carefully when using it for knowledge sharing, networking and developing trusted relations with other like-minded peers.

**Keywords:** Trust; Social Media; Web 2.0; Physicians; Healthcare; Blogging; Twitter Messaging; Knowledge Sharing

## INTRODUCTION

The rapid growth of social media platforms, such as blogs, micro-blogs, wikis, and social networking websites has brought new opportunities (such as professional socialisation, networking, collaboration, and knowledge sharing) as well as new challenges for peer to peer communication and knowledge sharing.<sup>1, 2</sup> One of the most critical challenges of communicating and knowledge sharing through social media is trusting people and how to develop mutual trust on social media.<sup>2-4</sup>

Interpersonal trust can be defined as “peer’s belief in another peer’s capabilities, honesty, and reliability”.<sup>5</sup> As with face to face communication, trust has been regarded as one of the main factors that influences knowledge sharing behaviour of individuals on online space.<sup>6-8</sup> Accordingly, lack of trust has also been argued as one of the main barriers of online communication and knowledge sharing.<sup>3, 9, 10</sup> Mutual trust can reduce the perceived risks and uncertainties associated with knowledge sharing.<sup>11</sup>

Several studies<sup>12-15</sup> also highlighted the importance of mutual trust for knowledge sharing and networking on online social networking sites. However, very few explored and demonstrated how people can establish and sustain trusted relationships on social media.<sup>1</sup> This is important as there may not necessarily be a close face-to-face contact between people on social media and therefore, trusting approaches might also be different.

Compared to traditional Information and Communication Technologies (ICT), social media seems to provide a social place that assist individuals in building trusted relationships by providing opportunities to socialise and interact with each other directly using various media such as text, images, and audio-video components. This socialisation provides more opportunities to get to know a person over time and whether she or he is trustworthy. However, despite the improvements in ICT-mediated communication, trusting on social media is still challenging and requires further research to investigate and improve fostering interpersonal trust among users.

Several studies have demonstrated that the adoption of social media by healthcare professionals and health organisations has grown considerably in recent years.<sup>16-21</sup> Such interest in and use of social media in healthcare requires further research. However, most of the research that has been done thus far in the area of social media in healthcare has been about the adoption of social media<sup>16-18, 22</sup> without including perspectives on trust. Many aspects of social media use by healthcare professionals are under-explored. There is a need for further studies to investigate how physicians or other healthcare professionals connect, trust, and share knowledge with each other in these virtual spaces. In particular, very few studies have been conducted in the healthcare context to explore how physicians trust peers on social media especially when it is related to medical knowledge and information which is very critical in patient care.<sup>4</sup> Therefore, the aim of this study was to identify approaches through which physicians develop and sustain mutual trust in social media.

## METHODS

### Recruiting the participants

Twenty-four physicians who were active on social media (using it regularly at least twice a week for professional purposes) and also were accessible were recruited to achieve the goals of the study. This ensured that the participants have sufficient experience to comment about building trust on

social media. The participants were recruited by disseminating announcements on Twitter and also by contacting several active medical bloggers and contributors on medical wiki pages or Twitter. Snowball sampling was then employed for further recruitment of the study participants. The selection of the participants was not limited to specific geographical locations or clinical speciality. Since the study was conducted online, it was expected that the results would not be affected by these limitations.

### **Conducting the interviews**

Using a semi-structured interview method, the participants were asked a series of open-ended questions regarding their experience of using social media sites and how they develop trust on these sites. Examples of questions include:

- What kind of social media tools do you usually use for professional purposes?
- How do you usually trust people on social media?
- Can you think of the time/example when you developed trusted relations with other physicians on social media?
- Could you tell me the time you decided not to share your personal knowledge on social media because of the trust issues?

A series of probing questions were also asked of the participants, if necessary, to encourage them to articulate their experience of when and how they developed trusted relations on social media. All interviews were conducted over Skype and audio recorded. The average duration of an interview was forty minutes. Interviewing began in October 2013 and carried on until April 2014 when it was noticed that the data was replicated and nothing new emerged.

### **Data analysis**

Thematic analysis approach, guided by Burnard<sup>23</sup> and Braun & Clarke<sup>24</sup>, was used to analyse the interview contents. Open coding was performed by carefully reading the transcripts. Next, the codes were reviewed multiple times and compared with each other and also against the data. Then, the codes were grouped according to content similarity. Finally, the main overarching themes responding the research question were chosen and reported. The data analysis program, NVivo (version 9), was also employed to facilitate the data analysis process.

To ensure trustworthiness, first, copies of interview transcripts were emailed to the participants for verification and comment. Second, the detailed records of the data analysis process, including decisions made throughout the project, were kept and systematically reviewed. Third, the process and findings were reviewed by supervisory team, and also presented and discussed in various meetings with colleagues.

## **RESULTS**

### **Participants**

Most participants were men (92%). It appears that female participants were less available and this needs further work to understand. The age distribution of the participants was as follows: 31-40 years old (54%), 41-50 years old (29%), 51-60 years old (9%), and above 60 years old (8%). The participants were mainly from Australia (54%), United States (38%), and Europe (8%). Emergency

physicians (58%) and general practitioners (21%) also constituted the majority of the participants in terms of clinical specialty.

### **Participants' use of social media**

The participants were asked which social media tools they usually use. Social media use is defined in this study as using one or more social media sites regularly for authoring and sharing knowledge, engaging in discussions and commenting with peers, and also reading and keeping up-to-date. The participants stated that they predominantly used Twitter, blogs, and multimedia sharing sites such as YouTube and Vimeo for professional purposes. Almost all the physicians who participated in the study had used Twitter frequently and were engaged in blogging. They rarely mentioned use of public social networks (such as Facebook and Google+), wikis, and physicians-only social networks. Therefore, the discussions in this study mostly cover interpersonal trust in the three most used social media platforms by participants, in other words Twitter, blogs, and multimedia sharing sites.

### **Fostering trust on social media**

Due to the importance of trust in knowledge sharing and networking, the participants were asked about how they actually trust people on social media. Participants had mixed views. A group of participants viewed trust as a main challenge in social media interactions due to the open and anonymous nature of social media. In contrast, other participants, particularly senior physicians, believed that there is not a significant difference between trusting people on social media and trusting people in a face-to-face communication or trusting academic publications. This group believed that trust is attainable on social media and that it can be built over time, provided appropriate approaches (detailed in the following sections) are followed.

Despite the various opinions held, it was obvious that physicians do not easily trust other people on social media when it is related to medical knowledge and practice. According to the participants, social media is open for everyone and anyone can pretend to be anything or speak louder than other people on social media. There is no close or face-to-face interaction necessarily among social media participants where they could be able to easily assess someone's trustworthiness. Authors' credentials also are not always assessable on social media. Consequently, there might be a lack of trust or reluctance to accept what has been shared on the social media. Therefore, it is vital to follow appropriate approaches to develop trusted relations specifically on social media.

The data analysis showed that physicians follow various approaches to trust peers on social media. It was found that majority of them established their trusted relations on social media through the following approaches (Note: examples of interview excerpts supporting each theme are provided on Table 1):

### ***Previous personal interactions***

Most participants viewed offline personal interactions as one of the primary ways of trusting people on social media. Almost everyone begins to develop a network of trust on social media by connecting first with people who they already knew or met in person. For example, they network with their current or past colleagues from work, or people who met them in meetings and conferences. The level of trust in these situations usually has already been established in an offline environment where people can take advantage of face-to-face interaction to build up mutual trust.

Social media then helps these already established offline relationships to persist for a longer time in an online space. Indeed, a lot of people's online interactions translate their authentic relationships in real life. This type of trust-building was rated by participants as a highest level of trust on social media.

Table 1. Examples of interview excerpts supporting findings of the study

<b>Previous personal interactions</b>	<i>"There's people who I know who I've met and I've spoken to in real time ... I feel like I do trust those people". (Participant no. 18)</i>
	<i>"I have personal interactions with many of them from either national meetings or some other experience and I know them and that's how I trust them". (Participant no. 17)</i>
<b>Authenticity and relevancy of voice</b>	<i>"Obviously by observing what they do and share stuff over time and seeing how they interact with other people ... and seeing if it measures with your own". (Participant no. 15)</i>
	<i>"The first way that I'll oftentimes that I do ... is does what they say make sense and fit what I believe to be important or I believe to be true ... if it looks like that voice is not going to be valuable or helpful or meaningful to me then I just won't bother any further." (Participant no. 22)</i>
<b>Professional standing</b>	<i>"If a professor of emergency who has been following for quite some years who is an expert in that, if he says something you can really try it" (Participant no. 10)</i>
	<i>"Then there's obviously their professional standing, where they work, what their clinical position is or if you know what research they've already done." (Participant no. 15)</i>
<b>Consistency of communication</b>	<i>"It's got to be a two way street. No one wants to really have in their networks people who are purely listeners. They want to have people who interact in an appropriate way" (Participants number 11).</i>
	<i>"And then the consistency, is this somebody who gives good information all the time or is this somebody who falls into good information once in a while but oftentimes is sharing stuff that doesn't really matter?" (Participant no. 22)</i>
<b>Peer recommendations</b>	<i>"this person was recommended to you by somebody who you trust" (Participant no. 10)</i>
	<i>"I don't think there is any gold standard to do it [trust]. I think just experience and recommendations" (Participant no. 14).</i>
<b>Non-anonymous and moderated sites</b>	<i>"There has to be a point at where you need to actually be somewhat real behind your avatar so you can engender trust and respect when it comes to conversations". (Participant no. 11)</i>
	<i>"The reason I trust that site is that I know it's quite heavily moderated ... And you can't be anonymous as well ... you have to give your details. So I trust that website" (Participant no. 20)</i>

### **Authenticity and relevancy of voice**

The participants regarded authenticity and relevancy of voice as one of the main criteria for approaching people and appraising peers' trustworthiness on social media. This is particularly important in interacting with new people on social media. The participants explained that they usually observe the sharers' online presence and examine what they share on social media over time. They might ask questions such as: Is the content shared relevant? Is that evidence-based?

Does it make sense based on their prior knowledge and experiences? How has the sharer framed the discussions? How do they approach their online presence? Who is behind the content shared? What do other people think about them? These questions help the receivers of knowledge to determine whether a person or the content is trustworthy. If the answers to these questions are not affirmative, the sharer will not be followed anymore or might be even blocked.

Majority of the participants believed that time is important factor in developing mutual relationships on social media. Although it is easy to join a conversation, it takes much longer for beginners to be accepted completely in a trusted community. Furthermore, having similar interests is also important in continuing the relationship.

### ***Professional standing***

Another way of determining people's trustworthiness on social media is to observe the professional standing of the sharers. The professional standing of people is an indicator of their level of knowledge and trustworthiness. Some of the participants explained that they sometimes perform a background check on the internet to ensure that people's qualifications are accurate, such as their education, professional experience, publications, and also what other peers think about them. Knowing basic information about sharer is the first step to initiate conversation and develop trust on social media. It is particularly more important in the medical context where patients' lives matter most for physicians.

There are now many well-known physicians on social media and when following them or having conversations with them, it is relatively easy to ensure that the information received is highly authentic. Although the participants mentioned several times that people on social media are not judged on their position or reputation, they actually seem to attach importance to the professional standing of people on social media too. Despite this, the participants offered several examples of how junior physicians were also welcomed to the discussions when they had a valuable idea, knowledge, or experience. Therefore, it can be argued that although professional standing may seem to be an important factor in an early connection, the authenticity and relevancy of voice matter most in fostering a strong relationship in the long term.

### ***Consistency of communication***

Continuity and consistency of communication between individuals was found as another important factor in developing mutual trust on social media. Lurkers and random contributors probably would not be able to connect with people as effectively as those who are regular users of social media. As the examples of interview extracts on Table 1 show, consistent involvement in online interactions on social media plays an important role in remaining within a trusted network. Participants used the term 'friends' for some of their online peers because of mutual ongoing communication between them on social media, even though they have never met each other in real-time. It seems that consistent communication makes it easier to know and understand each other better and this is necessary for developing mutual trust.

### ***Peer recommendations***

Recommendations from colleagues were also mentioned as another way of linking with people and establishing a mutual trust on social media. Obviously, people would more likely accept invitations from colleagues of colleagues than accept completely blind invitations on social media. As the examples of participants' perspectives (see Table 1) indicate, recommendations play an



important role in initiating and building trusted relations between individuals on social media, particularly when there are no previous personal relations and interactions between them. This assists in identifying those people who have similar interests and can be included in the network of trust. By initiating communications that are based on peer recommendations, they could later determine whether to maintain or cease the relationship based on their own subsequent personal experiences.

### ***Non-anonymous and moderated sites***

Lastly, some participants were interested in social networks in which the accounts are not anonymous, or in which the site is moderated by a trusted person. A few participants were also interested in sites that require a strict registration process. However, most of them did not show interest in dedicated social networks for physicians only, due to the lack of audience, lack of user participation, and also the inability to express personal branding or to generate more visibility for them. They were mostly interested in public social media platforms, largely due to the availability of a relevant audience.

However, being interested in public social media platforms did not mean that the participants liked the anonymity of the users. Some physicians participate on social media anonymously due to the employers' restrictions to use social media or because of the strict rules about maintaining patient privacy. The participants appreciated the anonymity of some of the blog posting and tweets due to personal security and privacy issues. However, it was regarded as one of the major barriers to developing trust and networking with people on social media. As an example, the physicians who participated in the study were not very interested in participating in wikis pages, due to the anonymity of authors and the lack of mutual interaction and recognition between participants. According to the participants, anonymous users may not be able to garner people's trust and respect on social media and hence, they might lose their ability to network with people.

Although several ways proposed by the study participants to develop trust on social media, face-to-face interaction was still recommended as a best way to establish mutual trust. Trust is easily attainable in face-to-face communication when there is an eye contact, exchange of non-verbal cues, and possibility of assessing people's confidence and competence. In summary, developing trust on social media does not occur as quickly and effectively as in face-to-face interactions. It can be built up over time and via regular reciprocal communication that provides opportunity for better knowing and understanding each other.

## **DISCUSSION**

The study showed that physicians have different perspectives regarding interpersonal trust on social media. Most believed that the way they trust other physicians on social media is almost analogous to the way they trust each other in a face-to-face communication, or the way in which they approach any medical information in a textbook or in a medical journal. The study revealed that physicians use various approaches to establish a trusted relationship on social media. First, they initiate building their network of trust by connecting with people who they already knew and met in person. Next, they trust physicians who are well known in the field or have been recommended by close peers. Then, they observe sharers' online behaviour and examine carefully what sharers post on social media. Finally, they do background checks on the internet if needed to evaluate the professional standing of the sharers.

Despite that the study found trusting people on social media is similar to trusting people in a face-to-face context or trusting academic publications, trusting on social media is still challenging. True interpersonal trust on social media mostly relies on interactions in real-world; it is time consuming and requires more frequent communication; and it still lacks the richness of face-to-face communication where people can use multiple senses to assess people's trustworthiness. However, the participants believed that compared to traditional ICT social media has more capabilities in fostering interpersonal trust among people.

In line with previous studies,<sup>2, 3, 12-14</sup> this study also acknowledges that mutual trust is crucial for knowledge sharing and networking on social media. However, as mentioned earlier, the literature lacked discussion on different ways of building interpersonal trust on social media particularly in healthcare context where patients' lives matter most. A major difference between current study and the literature is that this study primarily focused on how or what approaches physicians follow when trusting other peers on social media, whereas the literature predominantly focused on confirming the relationship between trust and knowledge sharing behaviour or studied trust in e-commerce context rather than interpersonal trust.

The study had a small sample size and only active users of social media were interviewed. These might be regarded as major limitations of the study which reduce the transferability of the findings. There is a need for further studies to investigate non-users of social media to understand their reasons for non-use and whether it is related to interpersonal issues on social media. Studying the differences between males and females in developing trusted relations on social media might also be interesting. Another area for research can be investigating and comparing interpersonal trust on and across different social media tools.

Despite the limitations, the findings of the study provided practical guidance for healthcare professionals to better approach social media in terms of developing trusted relationships. This is important, as lack of trust has been regarded as one of the major inhibitors of adopting social media by healthcare professionals.<sup>4</sup> The approaches mentioned in this study can help healthcare professionals to overcome some of the issues related to interpersonal trust on social media.

The findings might also be useful for contexts other than healthcare. However, there might be a need for further studies to verify these findings in different contexts by studying other professional communities, and also by examining additional social media platforms. Such studies might be helpful in revealing other dimensions of interpersonal trusting on social media.

## **CONTRIBUTIONS**

All authors contributed sufficiently to this paper to be included as authors. SP designed and conducted the study. JW and HP supervised the project in all phases and revisited the paper multiple times. All authors read and approved the manuscript.

## **Conflicts of Interest**

No conflicts of interest occurred.

## **FUNDING**

None.

**Main Messages**

- Building trust on social media mostly relies on authentic relationships in real life.
- Authenticity and relevancy of voice and consistent involvement are important in keeping the trusted relationships on social media.
- Lurkers, random contributors, and anonymous users may not easily garner peers' trust on social media.

**Current research questions?**

- How findings of the study can be verified in other contexts and by studying other professional communities?
- Is there a difference between fostering interpersonal trust among physicians on different social media platforms?
- Are there any other dimensions of fostering interpersonal trusting on social media which were not identified in this study?

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